**The claims defining the invention are as follows:**

1. A print engine simulator for a development system including a print controller adapted to communicate with a print engine to thereby control said print engine, the simulator comprising:

interpreter means for interpreting a communication from the print controller into hierarchical communication elements;

a state machine representation of the print engine, said state machine being responsive to the communication; and

display means adapted to display at least one of the communication from the print controller, the hierarchical communication elements, and an associated communication from the state machine.

2. A print engine simulator according to claim 1, wherein:

the communication from the print controller comprises a sequence of data link layer packets; and

the hierarchical communication elements comprise at least one of:

(i) said link layer packets;

(ii) a header associated with the link layer packets;

(iii) a checksum associated with the link layer packets;

(iv) an application layer packet formed from said link layer packets;

(v) a print engine command associated with the application layer packet; and

(v) arguments associated with the print engine command.

3. A print engine simulator according to claim 1, wherein the state machine representation comprises:

a first plurality of print engine states each being able to assume one or more state values; and

a second plurality of state transitions and associated time delays, wherein the communication from the state machine being in response to the communication from the print controller is dependent upon at least one of:

values of the first plurality of print engine states prior to the print engine simulator receiving the communication from the print controller;

said communication from the print controller; and

expiry of a time period.

4. A print engine simulator according to claim 2, wherein the display means is adapted to display at least one the hierarchical communication elements.

5. A print engine simulator according to claim 2, wherein the display means comprises:

a non-scrolling display area for displaying statistical information relating to said at least one the hierarchical communication elements; and

a scrolling display area for dynamically displaying the communication from the print controller.

6. A print engine simulator according to claim 2, further comprising:

error detection means for detecting an illegal condition in at least one of said hierarchical communication elements;

error display means for presenting the detected illegal condition on said display means; and

reset means for resetting said state machine representation of the print engine.

7. A print engine simulator for a development system including a print controller adapted to communicate with a print engine to thereby control said print engine, the simulator comprising:

a memory for storing a program; and

a processor for executing the program, said program comprising:

code for providing a state machine representation of the print engine, said state machine being responsive to a communication from the print controller;

code for interpreting said communication from the print controller into hierarchical communication elements; and

code for displaying at least one of the communication from the print controller, the hierarchical communication elements, and an associated communication from the state machine.

8. A development system including a print engine simulator, and a print controller adapted to communicate with a print engine to thereby control said print engine, wherein the simulator comprises:

interpreter means for interpreting a communication from the print controller into hierarchical communication elements;

a state machine representation of the print engine, said state machine being responsive to the communication; and

display means adapted to display at least one of the communication from the print controller, the hierarchical communication elements, and an associated communication from the state machine.

9. A method of simulating a print engine for a development system including a print controller adapted to communicate with said print engine to thereby control said print engine, the method comprising steps of:

providing a state machine representation of the print engine, said state machine being responsive to a communication from the print controller;

interpreting said communication from the print controller into hierarchical communication elements; and

displaying at least one of the communication from the print controller, the hierarchical communication elements, and an associated communication from the state machine.

10. A computer program product including a computer readable medium having recorded thereon a computer program for directing a processor to execute a method for simulating a print engine for a development system including a print controller adapted to communicate with said print engine to thereby control said print engine, said program comprising:

code for providing a state machine representation of the print engine, said state machine being responsive to a communication from the print controller;

code for interpreting said communication from the print controller into hierarchical communication elements; and

code for displaying at least one of the communication from the print controller, the hierarchical communication elements, and an associated communication from the state machine.

11. A computer program for directing a processor to execute a method for simulating a print engine for a development system including a print controller adapted to communicate with said print engine to thereby control said print engine, said program comprising:

code for providing a state machine representation of the print engine, said state machine being responsive to a communication from the print controller;

code for interpreting said communication from the print controller into hierarchical communication elements; and

code for displaying at least one of the communication from the print controller, the hierarchical communication elements, and an associated communication from the state machine.

12. A computer program according to claim 11, wherein:

the communication from the print controller comprises a sequence of data link layer packets, and the code for interpreting said communication from the print controller into hierarchical communication elements comprises:

(i) code for interpreting said link layer packets;

(ii) code for interpreting a header associated with the link layer packets;

(iii) code for interpreting a checksum associated with the link layer packets;

(iv) code for interpreting an application layer packet formed from said link layer packets;

(v) code for interpreting a print engine command associated with the application layer packet; and

(v) code for interpreting arguments associated with the print engine command.

13. A computer program according to claim 11, wherein the code for providing the state machine representation comprises:

code for a first plurality of print engine states each being able to assume one or more state values; and

code for a second plurality of state transitions and associated time delays, wherein the communication from the state machine being in response to the communication from the print controller is dependent upon at least one of:

values of the first plurality of print engine states prior to the print engine simulator receiving the communication from the print controller;

said communication from the print controller; and

expiry of a time period.

14. A computer program according to claim 12, further comprising:

code for detecting an illegal condition in at least one of said hierarchical communication elements;

code for presenting the detected illegal condition on said display means, and

code for resetting said state machine representation of the print engine.